

Protocols for Sentinel Plots, Mobile and Industry Monitoring

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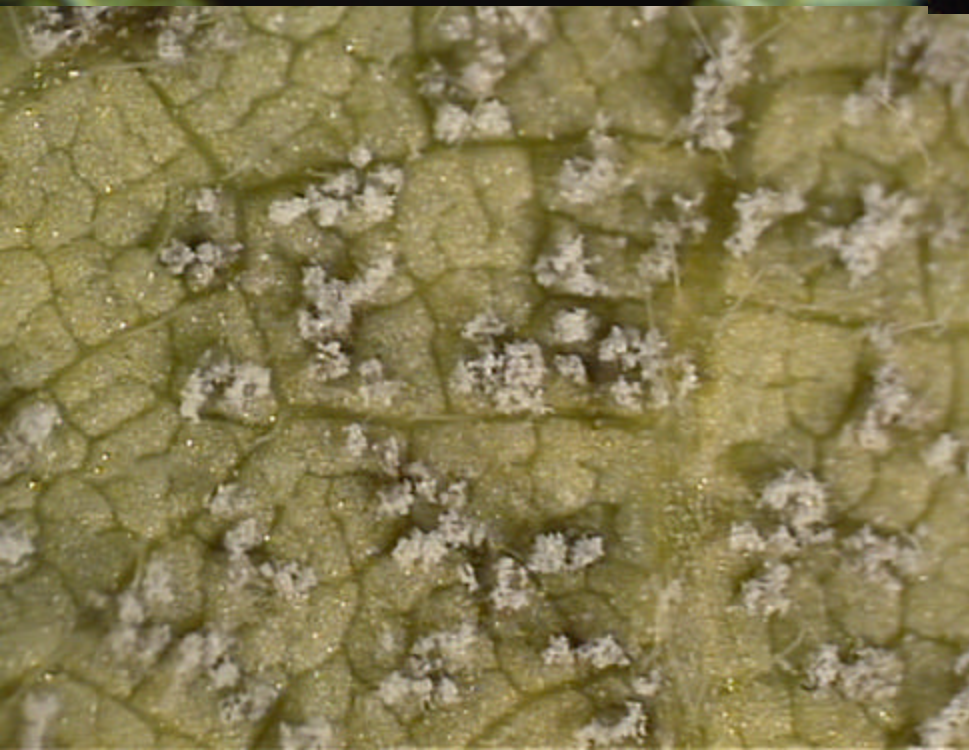
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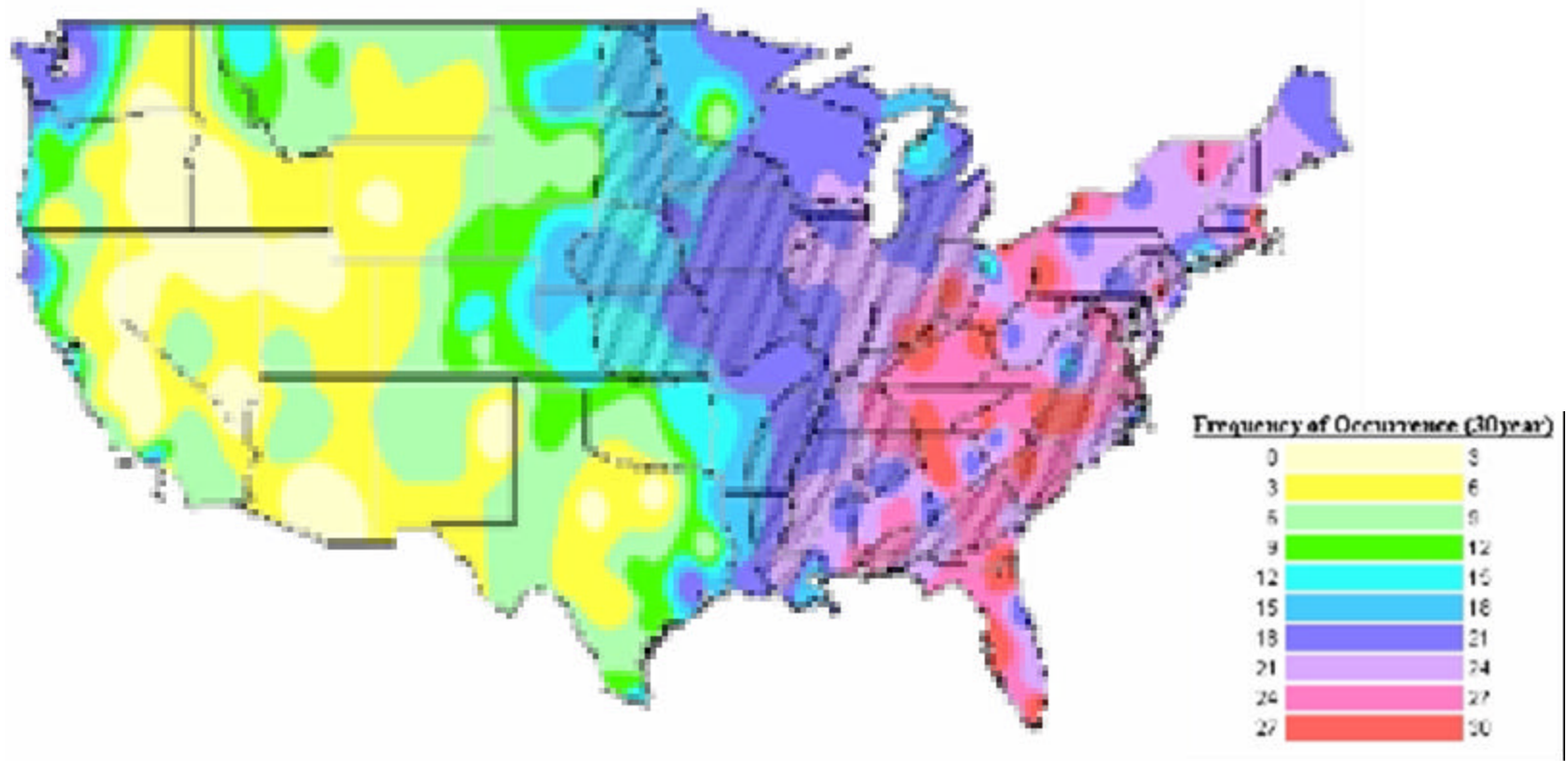
Monitoring Program

- 1. Fixed-site sentinel program**
- 2. Mobile survey**
- 3. Industry survey**
- 4. Sample submission through National Plant Diagnostic Network**
- 5. International monitoring**

Objectives of Monitoring

- 1. Serves as a warning network for new disease observations - provides a “real time” map on the occurrence of soybean rust**
- 2. Quantify timing of spore production in source areas - this will help drive the aerobiology prediction system**
- 3. Provide epidemiological data on spread over time and space**

FREQUENCY OF EXPECTED ASIAN SOYBEAN RUST OCCURENCE



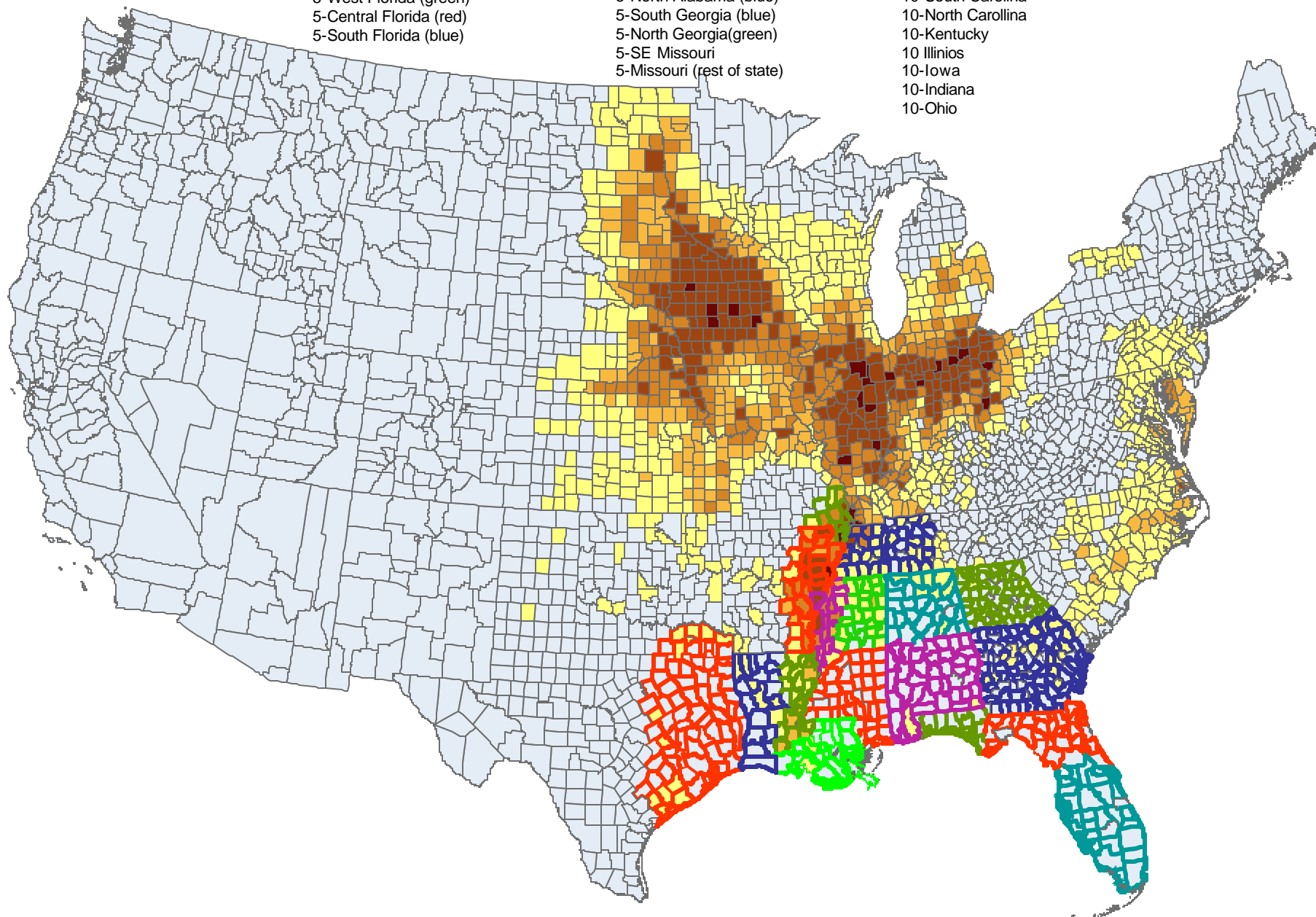
**BASED ON 30-YEAR WEATHER PATTERNS,
INCLUDING RAIN, DEW AND TEMPERATURE**
ISARD ET AL., 2004

Suggested Distribution Of Sentinel Plots

10-East Texas (red)
5-NE Louisiana (blue)
5-NW Louisiana (dark green)
5-South Louisiana (light green)
5-West Florida (green)
5-Central Florida (red)
5-South Florida (blue)

- 5-NE Mississippi (green)
- 5-NW Mississippi (purple)
- 5-South Mississippi (red)
- 5-South Alabama (purple)
- 5-North Alabama (blue)
- 5-South Georgia (blue)
- 5-North Georgia (green)
- 5-SE Missouri
- 5-Missouri (rest of state)

10-West Tennessee (blue)
5-East Tennessee
10-East Arkansas (red)
5-West Arkansas
10-South Carolina
10-North Carolina
10-Kentucky
10-Illinois
10-Iowa
10-Indiana
10-Ohio



Industry Monitoring

- 1. Data may be collected in commercial soybean production fields as part of commercial services, research or variety trials**
- 2. The data may be collected by field agronomists, crop consultants or individual growers**
- 3. The industry data provides additional confirmation of the spatial extent of disease spread over an area**

Incomplete List of Industry Cooperators

Type	Status	Number of Personnel (Southern)	Data collection & Upload	Lab diagnostic capability
Agricultural companies				
Pioneer – Bill Dolezal	Yes	120 (10)	Standard PDA	Yes
Monsanto - Scott Stein	Yes		PDA	
BASF - Ted Bardinelli Brad Guice	Yes			
Delta and Pine – Dr Kelly Whiting	Yes	11 (11)	Paper/ web	No
Dow	TBA			
Syngenta – Marshall Beatty, Alsion Tally	TBA			
Crop consultants				
NAICC – Alison Jones	TBA.			
ASAC	No response			
ASFMRA	No response			

Soybean Rust Scouting Form

Report Type

- ☐ Sentinel Plot
- ☐ Industry
- ☐ Mobile Team

Date

Report Type Form

This screen will automatically advance after a short delay once a "Report Type" button is touched.

The "Date" field will be extracted from the PDA and attached to each report.

Soybean Rust Scouting Form

Industry Report

Observer (pull down menu)

Plot ID:
Latitude:
Longitude:

Survey Type

- ☐ Incidence
- ☐ Severity

☐ Back

☐ Continue

Industry ID Form

Buttons in the “Observer” pull down menu will be set such that only one name can be highlighted. Touching a second button will automatically clear a previously selected name. If “unlisted observer” is indicated, an additional screen will appear for adding a new name to the list using the PDA keypad.

Plot ID, Latitude and Longitude will be typed by the user at the start of the first plot assessment using the PDA keypad. The observer does not need a GPS unit. Plot ID will be a unique identifier (e.g., IL001) assigned by the appropriate agency in the state. After this information has been specified for the first time, the user need only specify the Plot ID and the Latitude and Longitude information will be retrieved from storage in the PDA.

The “Severity Survey Type” of “Industry Report” is identical to the “Sentinel Plot Report”. The sequence of screens is not shown in this presentation. The following screen shows the format of an “Incidence Survey Type Industry Report”. It is only for soybean fields.

Fixed-Site Monitoring

- 1. Five to 15 plots per state minimum**
- 2. Early planting or staggered planting is suggested**
- 3. Can be soybean planted as plots or marked out areas in existing fields, or another species**
- 4. Plots should be visited weekly or more**
- 5. Upload data on web site by typing or by PDA**

Alabama	10-15	Southern tier counties near the coast and areas in the central and northern sections of the state	?	Funding to help monitor sentinel plots, travel for regional extension personnel involved to monitor plots. Travel funds to conduct proper surveys of alternative hosts, funds for hand lenses for growers and agents and for fungicide evaluations
Arkansas				
Delaware	Yet to be determined	University of Delaware Farm, Georgetown, DE	Some PDA	Spore traps
Florida	27 variety trials sown in S. Florida- will serve as sentinels plus other soybean trial plots in N. Florida and kudzu trials	Soybean in South and North FL. Kudzu statewide.	Some PDA	Required to handle the enormous pest and disease survey tasks in Florida. Suggested items needed: PDA's, vehicles

...and more.....

State soybean production, kudzu distribution and distribution of sentinel plots

	Soy Acreage		Kudzu	Number of
State	2004*	Average Planting Date	Acreage	Sentinels
Alabama	190,000	May 25 to June 25	117,510	10
Arkansas	3,150,000	May 25 to June 20	10,091	15
Delaware	208,000	May 28 to June 26	1	5
Florida	17,000	May 15 to June 15	12,449	15
Georgia	270,000	May 27 to June 27	151,318	10
Illinois	9,900,000	May 15 to June 9	529	10
Indiana	5,520,000	May 15 to June 5	98	10
Iowa	10,150,000	May 14 to June 2		10

...and more.....

Soybean Rust Scouting Form

Report Type

- ☐ Sentinel Plot
- ☐ Industry
- ☐ Mobile Team

Date

Report Type Form

This screen will automatically advance after a short delay once a "Report Type" button is touched.

The "Date" field will be extracted from the PDA and attached to each report.

Soybean Rust Scouting Form

Sentinel Plot Report

Observer (pull down menu)

Plot ID:
Latitude:
Longitude:

Host Type

- ☐ Soybean Cultivar
- ☐ Non-Soybean Host

Evaluation Type

- ☐ Plant-based
- ☐ Row-based

☐ Back

☐ Continue

Sentinel Plot ID Form

Buttons in the "Observer" pull down menu will be set such that only one name can be highlighted. Touching a second button will automatically clear a previously selected name. If "unlisted observer" is indicated, an additional screen will appear for adding a new name to the list using the PDA keypad.

Plot ID, Latitude and Longitude will be entered by the user at the start of the first plot assessment using the PDA keypad. Thus a Sentinel Plot observer does not need a GPS unit.

Plot ID will be a unique identifier (e.g., IL001) assigned by the appropriate State agency. After this information has been specified for the first time, the user need only specify the Plot ID and these data will be retrieved from storage in the PDA.

Soybean Rust Scouting Form

Sentinel Plot Report

Number of Cultivars/Practices

☐ Enter

Cultivars # 1

Cultivar Name

Planting Date

Row Spacing

Stand Count

Plot Size

☐ Enter

☐ Back

☐ Continue

Soybean Cultivar Information Form

If "Soybean Cultivar" is chosen, a screen will appear for indicating how many different soybean cultivars and cultural practices are to be scouted in the sentinel plot (This number is one for a homogeneously planted plot). After indicating this number the user touches the enter button. This number will control the number iterations through the cultivar information box below. For each cultivar the user will specify: 1) cultivar name, 2) planting date, 3) row spacing (ft or cm), 4) stand count (# of plants per ft or m), and 5) plot size (ft x ft or m x m). After specifying all of this information the user touches the "Enter" button to go to the next cultivar

These data will be stored in the PDA in association with the Plot ID and will be retrieved from memory whenever a user specifies the Plot ID,

Soybean Rust Scouting Form

Sentinel Plot Report Soybean Cultivar #1

Cultivar Descriptor

Plant Height

- ☐ < 12 in (30 cm)
- ☐ 12-24 in (30-61cm)
- ☐ 24-36 in (61-91cm)
- ☐ >36 in (91 cm)

Canopy Closure

- ☐ < 50 %
- ☐ 50-75 %
- ☐ 75-95 %
- ☐ > 95 % (closed)

Soybean Growth Stage

Vegetative Stages

VE VC V1 V2 V3 V4 V5 V6 V7 V8 V9 V10 V11 V12

- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐

Reproductive Stages

R1 R2 R3 R4 R5 R6 R7 R8

- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐

☐ Back

☐ Continue

Soybean Cultivar State Form

This screen will appear if “Soybean Cultivar” is specified as the crop in the Sentinel Plot. The Soybean Cultivar # and the “Cultivar Descriptor” field will be filled automatically using information already specified.

The “Plant Height” and “Canopy Closure” buttons will be set so only one can be highlighted at a time. Touching a second one will automatically clear others in the same category.

Buttons will be set so only one in each set (vegetative and reproductive) can be highlighted at a time. Touching a second one will automatically clear all others in the set. The “Continue” button will advance the screen.

Soybean Rust Scouting Form

Sentinel Plot Soybean Report

Soybean Cultivar #1: Plant-based Evaluation

Cultivar Descriptor

Site 1 – Plant 1

☐ Set Same as Previous Plant

Soybean Node #		CN	UN	1	2	3	4	5	6	7	8	9
Rust Severity Rating	None	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Low	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Medium	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	High	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Soybean Node #		10	11	12	13	14	15	16	17	18	19	20
Rust Severity Rating	None	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Low	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Medium	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	High	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

☐ Back

☐ Next Plant

☐ Next Site

☐ Next Cultivar

Soybean Cultivar -Plant Evaluation Form

This screen will appear if “Soybean Cultivar” is specified as the crop and “Plant-based” is specified as the “Evaluation Type”. It is expected that 3 sites per field and 5 plants per site will be scouted.

However, the user can determine the number of plants and sites with the “Next Plant” and “Next Site” buttons. When data are entered and one of these buttons is touched, a new screen will appear with the “Soybean Cultivar #”, “Cultivar Descriptor”, “Plant ID” and/or “Site ID” incremented appropriately. CN and UN represent cotyledon and unifoliolate leaf nodes.

The user first marks the button indicating the node with the lowest attached leaf on the major stem of the soybean plant and then marks the button indicating the upper most node having a fully expanded leaf on the main stem. All buttons in the “None” row between these two buttons will be automatically marked. The user may then indicate a “Rust Severity Rating” (i.e., “Low”, “Medium”, “High” or leave the “None” button marked) for each of these nodes by examining the middle leaflet of a trifoliolate at the node. Buttons will be set so only one in each column can be highlighted at a time. Touching a second one in a given column will automatically clear all other buttons in the same column. Nodes that have yet to develop or no longer have attached leaves should be left blank.

The “Set Same as Previous Plant” button is a convenient short cut for when there is little variance among plants at the site. After using this shortcut, the user can still alter the data on the screen by touching other buttons. When the current cultivar is the last cultivar, the “Next Cultivar” button becomes a “Finish” button.

Soybean Rust Scouting Form

Sentinel Plot Soybean Report

Soybean Cultivar #1: Row-based Evaluation

Cultivar Name

Row #1

Set Same as Previous

Soybean Nodes		Low	Middle	High
Rust Severity Rating	None	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Low	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Medium	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	High	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

☐ Back

☐ Next Row

☐ Next Cultivar/Practice

Soybean Cultivar - Row Evaluation Form

This screen will appear if “Soybean Cultivar” is specified as the crop and “Row-based” is specified as the “Evaluation Type”. The “Cultivar Descriptor” field filled with information previously specified.

It is expected that a single Row evaluation will be conducted in each soybean cultivar/cultural practice type. However, a second Row of the same Cultivar/Cultural Practice type can be scouted using the “Next Row” button. When the current cultivar/practice is the last cultivar/practice, the “Next Cultivar/Practice” button becomes a “Finish” button.

The nodes with attached leaves are divided into thirds for the evaluation. The “Low” category includes leaves on the bottom third of these nodes, “Middle” represents the middle third, and “High” includes the upper third.

Soybean Rust Scouting Form

Sentinel Plot Report

Number of Species/Practices

☐ Enter

Species # 1

Species Name

Planting Date

Plot Size

☐ Enter

☐ Back

☐ Continue

Non-Soybean Host Information Form

If "Non-Soybean Host" is chosen, a screen will appear for indicating how many hosts and cultural practices are to be scouted in the sentinel plot (This number is one for a homogeneously planted plot). After indicating this number the user touches the enter button. This number will control the screens that follow. Each of the subsequent screens will request information on plant species and planting date. After specifying all of this information the user touches the "Enter" button to go to the next cultivar

These data will be stored in the PDA in association with the Plot ID and will be retrieved from memory whenever a user specifies the Plot ID,

Soybean Rust Scouting Form

Sentinel Plot Soybean Report Plant- or Row-based Evaluation Non-Soybean Host #1

Species

Rust Severity Rating

- ☐ None
- ☐ Low
- ☐ Medium
- ☐ High

Lesion Type

- ☐ Red-Brown
- ☐ Tan
- ☐ Both R-B & Tan
- ☐ Not determined

Sporulation

- ☐ yes
- ☐ no

☐ Back

☐ Next Plant

☐ Next Species

Non-Soybean Host - Plant/Row Evaluation Form

This screen will appear if “Non-Soybean Host” is specified as the crop in the Sentinel Plot regardless of the “Evaluation Type”. The “Species” field will be filled automatically using information already specified.

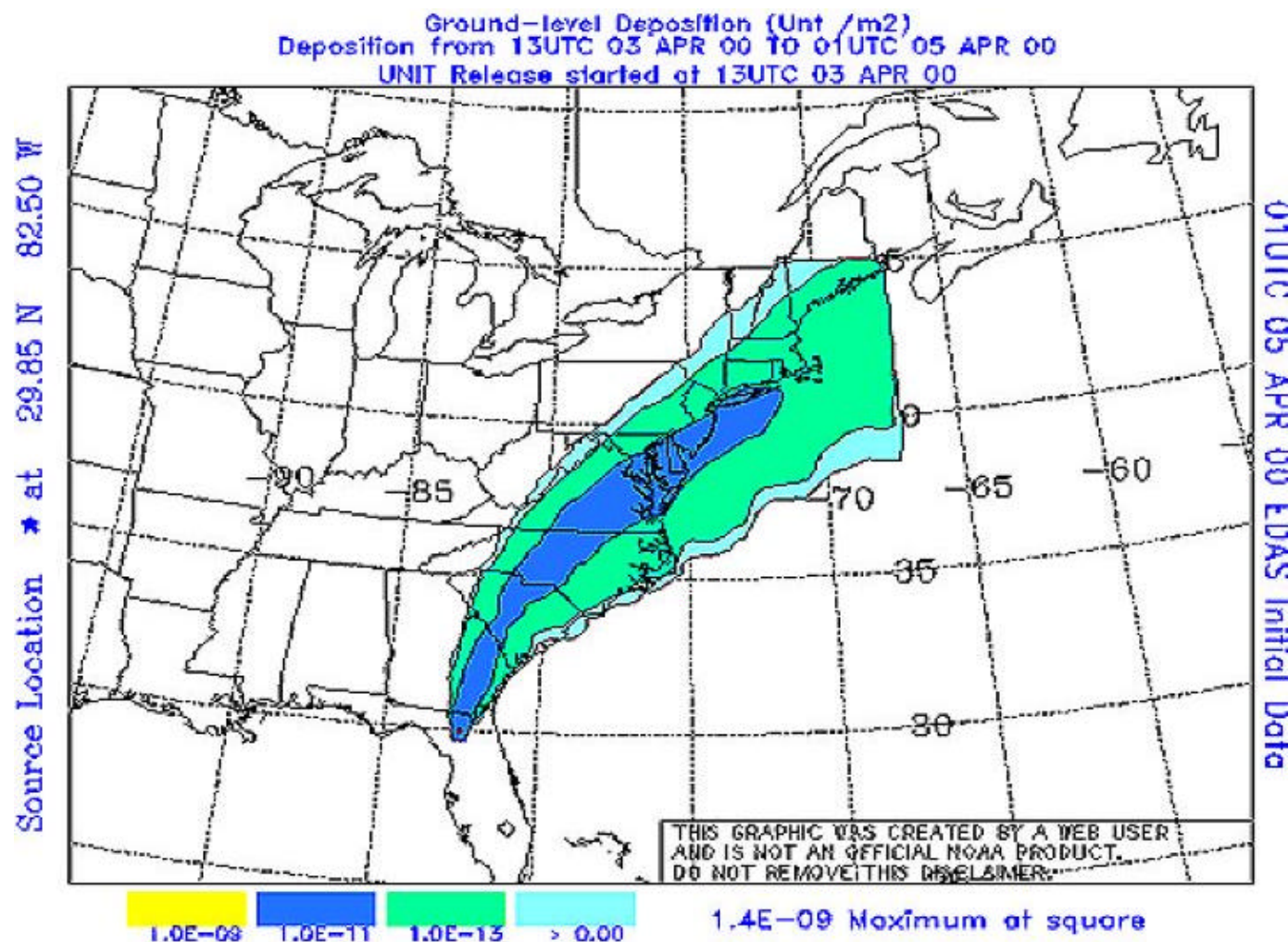
The user will indicate “Rust Severity Rating”, “Lesion Type”, and “Sporulation”. If there is no rust present, the “Lesion Type” and “Sporulation” fields should be left blank. The buttons in each of these category will be set so only one in each category can be activated at a time. Touching a second one will automatically clear all others in the category.

If the user has specified “Plant-based Evaluation”, a “Next Plant” button will be available so that the user can evaluate another plant of the same species. If the user has specified “Row-based Evaluation”, a “Next Row” button will be available so that the user can evaluate another row of the same species. If the current species being evaluated is not the last, a “Next Cultivar” button will be available. If the current species is the last in the sentinel plot, the “Next Cultivar” button will be replaced by a “Finish” button.

Mobile Team Monitoring

- 1. Deployment based on predicted spore deposition and infection**
- 2. Observations will define new sources areas**
- 3. At least five mobile teams are suggested with each having a team leader**
- 4. More than one team may be deployed depending upon the size of the predicted spore deposition**
- 5. Data will be uploaded back to central command for immediate analysis**

Spore Deposition Projection from the Blue Mold Model



Soybean Rust Scouting Form

Mobile Team Report

Observer (pull down menu)

Date: (automatic)
Latitude: (automatic)
Longitude: (automatic)

Sample Identifier

Host Information

- ☐ Soybean Field
- ☐ Non-Soybean Host

☐ Back

☐ Continue

Mobile Team ID Form

Buttons in the “Observer” pull down menu will be set such that only one name can be indicated. Touching a second button will automatically clear a previously selected name. If “unlisted observer” is indicated, an additional screen will appear for adding a new name to the list using the PDA keypad.

The “Date” will be extracted from the PDA unit. The PDA will beep if it is not receiving the coordinates from a GPS unit.

The “Sample Identifier” will be a unique number generated automatically as a function of date and location. It should be used on all leaf tissue and other collections. It will be unique to the general location (e.g., soybean field)

User will indicate whether a soybean field or non-soybean host is being scouted

Soybean Rust Scouting Form

Mobile Team Soybean Report

Sample Identifier

Plant Height

- ☐ < 12 in (30 cm)
- ☐ 12-24 in (30-61cm)
- ☐ 24-36 in (61-91cm)
- ☐ >36 in (91 cm)

Row Spacing

- ☐ < 15 in (38 cm)
- ☐ 15-22 in (38-56 cm)
- ☐ 23-32 in (56-81 cm)
- ☐ > 32 in (81 cm)

Canopy Closure

- ☐ < 50 %
- ☐ 50-75 %
- ☐ 75-95 %
- ☐ > 95 % (closed)

☐ Back

☐ Continue

Soybean Crop State Form Screen 1

The “Plant Height”, “Row Spacing”, and “Canopy Closure” buttons will be set so only one in each category can be highlighted at a time. Touching a second one will automatically clear others in the same category.

These measures should be approximated by observers in the field. “Canopy Closure” is the percent of the overhead view of the site that is occupied by leaf tissue.

Soybean Rust Scouting Form

Mobile Team Soybean Report

Sample Identifier

Soybean Growth Stage

Vegetative Stages

VE VC V1 V2 V3 V4 V5 V6 V7 V8 V9 V10 V11 V12

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Reproductive Stages

R1 R2 R3 R4 R5 R6 R7 R8

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

☐ Back

☐ Evaluate Site 1 – Plant 1

Soybean Crop State Form Screen 2

Buttons will be set so only one in each set (vegetative and reproductive) can be highlighted at a time. Activating a second one will automatically clear all others in the set. The “Evaluation Site1-Plant 1” button will advance the screen.

Soybean Rust Scouting Form

Mobile Team Soybean Report

Sample Identifier

Site 1 – Plant 1

☐ Set Same as Previous Plant

Soybean Node #		CN	UN	1	2	3	4	5	6	7	8	9
Rust Severity Rating	None	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Low	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Medium	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	High	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Soybean Node #		10	11	12	13	14	15	16	17	18	19	20
Rust Severity Rating	None	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Low	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Medium	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	High	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

☐ Back

☐ Next Plant

☐ Next Site

☐ Finish

Soybean Crop - Plant Evaluation Form

It is expected that 3 sites per field and 5 plants per site will be scouted. However, the user can determine the number of plants and sites with the “Next Plant” and “Next Site” buttons. When data are entered and one of these button touched, a new screen will appear with the Plant ID and/or Site ID incremented appropriately. CN and UN represent cotyledon and unifoliate leaf nodes.

The user first marks the button indicating the node with the lowest attached leaf on the major stem of the soybean plant and then marks the button indicating the upper most node having a fully expanded leaf on the main stem. All buttons in the “None” row between these two buttons will be automatically marked. The user may then indicate a “Rust Severity Rating” (i.e., “Low”, “Medium”, “High” or leave the “None” button marked) for each of these nodes by examining the middle leaflet of a trifoliate at the node. Buttons will be set so only one in each column can be highlighted at a time. Touching a second one in a given column will automatically clear all other buttons in the same column. Nodes that have yet to develop or no longer have attached leaves should be left blank.

The “Set Same as Previous Plant” button is a convenient short cut for when there is little variance among plants at a site. After using this shortcut, the user can still alter the data on the screen by touching other buttons.

Soybean Rust Scouting Form

Mobile Team Alternative Host Report

Sample Identifier

Alternative Host

Image Recorded

- ☐ yes
☐ no

Alternative Host Density

- ☐ Light
☐ Medium
☐ Heavy

Land Use Type

- ☐ Roadside/Ditch
☐ Wooded Area
☐ Pasture/Grassland
☐ Cultivated/Fallow Field
☐ Other

Area of Land Use Unit

Acres (pull down)

☐ Back

☐ Continue

Alternative Host Information Form

“Alternative Host” will be a pull down menu with a list including the following and many more: *Melilotus officinalis* (yellow sweet clover), *Pueraria lobata* (kudzu).... A button in the pull down list will allow user to specify a host not in the list using the PDA keypad. An “unknown button” will be available.

The image file name should be “SampleIdentifier1.jpg”. If multiple pictures are taken they should be labeled SampleIdentifier2.jpg.....

The “Land Use Type” and “Alternative Host Density” buttons will be set so only one in each category can be highlighted at a time. Touching a second one will automatically clear others in the same category.

Pull down “Acres” menu will have a list to choose from.

Soybean Rust Scouting Form

Mobile Team Alternative Host Report

Sample Identifier

Alternative Host

Rust Severity Rating

- ☐ None
- ☐ Low
- ☐ Medium
- ☐ High

Lesion Type

- ☐ Red-Brown
- ☐ Tan
- ☐ Both R-B & Tan
- ☐ Not determined

Sporulation

- ☐ yes
- ☐ no



Sample Additional Plant
of Same Species



Back



Finish

Alternative Host – Plant Evaluation Form

The “Sample Identifier” and “Alternative Host” fields will be filled automatically using information stored in the PDA.

The user will indicate lesion type, sporulation, and a rust severity rating. The buttons in each of these categories will be set so only one in each category can be highlighted at a time. Touching a second one will automatically clear the others in the category.

If “Sample Additional Plant of Same Species” is selected, the same screen will appear with unmarked buttons.